



PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : WRIGHT ET AL.
SERIAL NO. : 10/823,195
FILED : DECEMBER 4, 2004
TITLE : CONNECTION BETWEEN A WALL AND A PIPE
EXAMINER : LAN NGUYEN
GROUP ART UNIT : 3683

DECLARATION UNDER C.F.R. 1.132

Honorable Commissioner for Patents and Trademarks
P.O. BOX 1450
Alexandria,
VA 22313-1450

DECLARATION IN SUPPORT OF PATENTABILITY

I, Andrea TICCI, an Italian subject of Via Mazzini 289, Viareggio, I5049, Italy, declare:-

1. I am presently the Engineering Director of PetroTechnik Limited, PetroTechnik House, Olympus Close, Whitehouse Industrial Estate, IPSWICH, Suffolk, IP1 5LN, United Kingdom, a position I have held since 2006. I make this declaration from my own personal knowledge. Prior to joining PetroTechnik Limited in 2006, I was employed by NUPI SpA, Via dell'Artigianato, 13, I-40023 Castel Guelfo di Bologna (BO) Italy. I was employed by NUPI from 1997 and held the position of Engineering Director from 2002 until 2006. I am a Doctor of Nuclear Engineering with a strong background in material engineering. NUPI SpA is a direct competitor of PetroTechnik Ltd. in the containment piping market for the storage and transfer of flammable liquids underground.

2. PetroTechnik is the leading worldwide innovator, provider and distributor of UPP polyethylene containment piping and tightness testing systems for the storage and transfer of flammable liquids underground. PetroTechnik also designs, manufactures and distributes CZ above and below ground storage tanks and pressure vessels. Petrotechnik's UPP System is a complete leak tight, underground pipework and containment system that will last the lifetime of any site ensuring cost efficient fuel delivery and complete protection for the surrounding environment. Manufactured from high-density polyethylene, the UPP system is extremely tough, corrosion resistant and, once installed, should need no further maintenance.
3. PetroTechnik was the first company to use polyethylene pipe for the petroleum market and the first to launch an automated electrofusion process for such applications . Now UPP is widely used in a number of markets including aviation, marine and mining and eight million metres of UPP pipe have been installed in over 30,000 sites across 140+ countries.
4. NUPI SpA has been a recognized global leader for the last 35 years in the development and production of High Density Polyethylene (HDPE) thermoplastic piping systems for plumbing and natural gas applications. In 1995, following the completion of an extensive Research & Development program, NUPI commenced a new industrial division for the purpose of manufacturing polymeric piping systems specifically dedicated to petroleum, chemical, and petrochemical applications and markets. I am therefore very familiar with both the products of NUPI SpA and PetroTechnik Ltd. and with the problems associated with forming fluid-tight seals between a chamber wall and pipes or containment systems passing through chamber walls.

5. I have seen the latest Office Action from the USPTO and I have seen copies of the claims currently under examination as well as the cited prior art that the Examiner is relying on, namely US-5,295,760 (Rowe), US-4,894,521 (Evans), US-5,655,564 (Gavin) and US-4,200,299 (Carlesimo). I understand that the Examiner has concluded that certain claims, including independent Claim 22, are not inventive over Rowe in light of Evans. I believe that when arriving at this conclusion the Examiner was not in possession of all the relevant facts, including widely held prejudices in our industry, and as a consequence has reached an incorrect conclusion.
6. When PetroTechnik Limited began the project which led to the invention as now claimed in US-10/823,195, I was employed by NUPI SpA. There was a widely held view throughout NUPI SpA and the industry as a whole that, to form a strong, durable electrofusion seal to the required standards so as not to allow fluid ingress or egress, the materials being electrofused needed to be compatible with each other. That is to say, the two components to be electrofused together had to be formed from a similar density of polyethylene. The chambers are formed from low density polyethylene and are made using different manufacturing processes such as rotor moulding. As a result, they possess certain inherent properties in the plastics materials which are significantly different from the fittings. The fittings are formed from high density polyethylene and are made using different manufacturing processes such as injection moulding. As a result, the fittings possess different inherent properties in the plastics materials compared to the chambers.
7. There was a preconception both at NUPI and in the industry itself that electrofusion between components formed from low and high density polyethylene would not result in a good seal between those components since the plastics materials were believed to be incompatible due to their different inherent properties. The concept of electrofusing low density to high density polyethylene was first employed and pioneered by

PetroTechnik in fittings of this type. Prior to PetroTechnik's proof of concept it was not though possible, due to the preconceptions concerning the incompatibility of the two plastics materials.

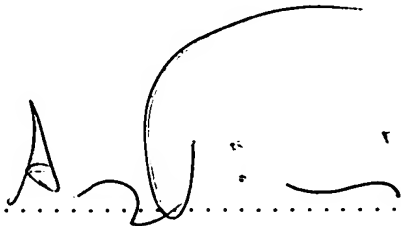
8. The Examiner's argument that the teaching of Rowe, which describes a type of gasket fitting used widely in our industry, should be combined with the teaching of Evans, is entirely misdirected. For the reasons set out above, anyone working in our industry would have considered such a move to be destined to fail.
9. But there is another reason that one would expect such a fitting to fail. Both Rowe and Carlesimo refer to the forces which build up over time causing joints between pipes and chamber walls to fail. Even if a successful joint could be formed, it would be expected to fail over time, resulting in significant downtime and an expensive repair. Even if the joint did not fail, then one would expect the chamber wall, weakened by multiple penetrations, to give way under the forces which would build up. All of these clear and widely-held preconceptions in our industry direct away from considering any type of electrofusion in a fitting such as those described by Rowe.
10. The Examiner should also be aware that a fitting of the type described by Gavin, with an internal seal with a pipe passing through the fitting, is an entirely unsuitable starting point for the design of any fitting to be used in the petroleum industry. There are a number of reasons for this. Because a leak of petroleum into the environment has such serious consequences, any seal must be available for routine inspection. Furthermore, once an underground assembly has been completed, it must be vacuum or pressure tested thoroughly before it is backfilled. There is no way that a fitting according to Gavin could pass a vacuum or a pressure test, and there is no way in which such a fitting could be made to pass that type of test. The sewerage industry and the petroleum industry are so very different from each other that anyone working in

the petroleum industry would consider using a fitting from the sewerage industry as a starting point, least of all Gavin.

11. Even if one started with Gavin, one would not seek to incorporate the electrofusion technology of Evans for the reasons set out above.
12. Even if one adopted Gavin as a starting point and incorporated the electrofusion technology of Evans, one would still not arrive at the simple, strong, rigid fitting of Boudry et al.
13. When those at NUPI SpA, including myself, became aware of the Boudry fitting, we did not believe it would work, for all of the reasons set out above, but we were proved wrong and this series of fittings is a huge commercial success, contrary to all the prejudices in our industry.

I, Andrea Ticci, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful, false statements may jeopardize the validity of this application or any patent resulting therefrom.

Signed:



Date:

11/12/2007

2007

ANDREA TICCI